

REMARKS/ARGUMENTS

In an Office Action dated October 15, 2007, claims 1, 8, 12, 21, 24-27, 30-32, 36-40, 43-46, 50, 55-59, 62-65, 69, 74-78, 84, 86, 92 and 95 were objected to; claims 7-20, 26-39, 45-58, 65-67, 69-71, 74-77, 83-91 and 93-95 were rejected under § 112 ¶ 2; claims 78-95 were rejected under § 101; 1-95 were rejected under § 102 over Valdevit, U.S. Patent Appln. Pub. No. 2002/0156918; and claims 1-95 were provisionally rejected for double patenting over Serial Nos. 10/699,567 and 10/699,568. Applicants request consideration of the following arguments.

Claim Objections

Claims 1, 8, 12, 21, 24-27, 30-32, 36-40, 43-46, 50, 55-59, 62-65, 69, 74-78, 84, 86, 92 and 95 were objected to.

Claims 21, 24-27, 30-32, 36-40, 43-46, 50, 55-59, 62-65, 69, 74-75 and 76-77 have been amended to address the “adapted to,” “capability” and “first said switch” objections.

Applicants respectfully traverse the “potentially reduce” objection to claims 1, 8, 12, 21, 27, 31, 40, 46, 50, 59, 65, 69, 78, 84, 86, 92 and 95. Applicants submit that the claims are proper as recited. The Office Action has requested deletion of “potentially” so that the claim portions read “so as to reduce frame traffic congestion.” The problem being addressed stems from routing flows of frames between arbitrary sources and destinations. In certain cases a fixed routing table could have all of the flows routing through one route and have another route unused, at the extreme. It is also possible that the mix of flows could be such that the fixed routing table is evenly distributing the flows over the two routes. In the case of such even distribution, the routing that is occurring is locally optimal. As a result, no enhanced routing techniques could improve the traffic congestion. An enhanced routing technique can easily improve on the first illustration by directing some flows over each route. Thus an enhanced routing technique could improve some or many cases but not all cases. Thus to require the claims to be amended to require a reduction in traffic congestion as suggested by the Office Action would be to

require something that presumably cannot be done, namely reduce traffic congestion in all cases. The use of “potentially reduce” better fits the actual results that can be achieved. Therefore Applicants submit that the claims are as positive as is possible, given the environment of the claims. Withdrawal of the objection is requested.

Claims 8, 12, 27, 31, 46, 50, 65, 69, 84, 86 and 95 were objected to because of the use of “in terms of.” Applicants respectfully traverse the objection. The full clause of interest is “select an exit port that is as good or better than alternative exit ports in terms of achieving an objective function.” Thus the claim language requires something that is “good as or better than” something else. The “in terms of” language is used to define the property being compared to be “good as or better than,” in this case an objective function. Any comparison must be of some property or aspect. Applicants submit that removal of the phrase “in terms of” removes the link needed to specify the property, thus rendering the claim indefinite. Applicants submit that “in terms of” is necessary for definiteness and thus does not render the claim not positive. Withdrawal of the objection is requested.

Section 112 Rejections

Claims 7-20, 26-39, 45-58, 65-67, 69-71, 74-77, 83-91 and 93-95 were rejected under § 112 ¶ 2.

Claims 17-20, 27, 36-39, 46, 50, 55-58, 65, 69, 74-77, 84, 88-91 and 95 have been amended to address the “said frame” and “said flow” rejections.

Claims 7, 26, 45, 64 and 83 were rejected, stating that “the frames” had insufficient antecedent basis. Applicants traverse the rejection. Taking claim 7 as exemplary, claim 1 recites both “flow of frames” and “at least one frame.” One clause reads “possible exit ports through which at least one frame from said flow of frames will exit.” Applicants submit that this clause provides antecedent basis for “the frames exiting said switch.” Withdrawal of the rejection is requested.

Claims 8-10, 12-14, 27-29, 31, 33-34, 46-49, 50-52, 65-67, 69-71, 84, 86 and 95 were rejected for using “as good or better than.” Applicants respectfully traverse the rejection. This rejection is similar to the “potentially reduce” objection made above. Similar arguments apply. Further, the phrase is also very clearly a mathematical

statement, such as greater than or equal to, which is clearly specific and definite.

Applicants request withdrawal of the rejection.

Claims 16, 35, 54 and 73 have been cancelled, rendering that rejection moot.

Claims 12, 31, 50, 69 and 86 were rejected for “the particular exit port” lacking antecedent basis. Applicants respectfully traverse the rejection. The claim reads in part: “at least some exit ports have multiple weights reflecting routes from the particular exit port to multiple destination ports.” The phrase “at least some exit ports” defines plural exit ports. The property “have multiple weights” applies to individual ports. The use of “the particular exit port” is provided to qualify parameters of the multiple weights for use with each of the plural exit ports. Some singular or specific port reference must be used to indicate that the multiple weights are qualified for each exit port and Applicants have chosen “the particular exit port” language. As the language is used to specify parameters for individual ones of defined multiple exit ports, Applicants submit that sufficient antecedent basis is present. Withdrawal of the rejection is requested.

Claims 17-20, 36-39, 55-58, 74-77 and 88-91 have been rejected due to the use of “and/or”. Applicants respectfully traverse the rejection. The more complete clause is “selected based at least in part on a source tag and/or a destination tag.” The use of “and/or” defines three cases in the claims, source tag alone, destination tag alone and both source and destination tags. Thus the clause effectively reads “selected based at least in part on one of three cases.” Clearly this phrasing is not indefinite. Therefore the equivalent language using “and/or” is also not indefinite. Withdrawal of the rejection is requested.

Section 101 Rejections

Claims 78-95 were rejected under § 101.

Claims 78 and 92 have been amended to recite that the storage medium is computer-readable and the instructions are computer-executable. This is believed to be equivalent to the suggestion in the Office Action. Withdrawal of the rejection is requested.

Section 102 Rejections

Claims 1-95 were rejected under § 102 over Valdevit, U.S. Patent Appln. Pub. No. 2002/0156918.

Claims 1, 21, 40, 59, 78 and 92

Claim 59 will be used as exemplary as it best matches the Office Action. Claim 59 requires that the set of possible exit ports from the first switch include at least some of the exit ports of at least two trunk groups. The Office Action cited Fig. 8A, elements 812 and 818. As cited above, the claim specifically requires the use of a single switch and that the single switch have at least two trunk groups that can be exits from the single switch. The cited Fig. 8A show four different switches, with only switches 812 and 818 including trunk groups, and then only switch 812 has a trunk group as an exit. Therefore Fig. 8A does not meet the claim requirements. Only one of the four illustrated switches can be utilized in a proper rejection. As only switch 812 has any exit trunk groups, switch 812 is the only viable candidate switch. But switch 812 has only one exit trunk group, not the at least two trunk groups required by the claim. Therefore switch 812 could never perform the claimed exit port selection where the set of possible exit ports includes at least some of the exit ports of at least two trunk groups. As a result, the rejection of claim 59 is improper and should be withdrawn. As claims 1, 21, 40, 78 and 92 include similar limitations, similar arguments apply so that those claims are also allowable. As these are all of the independent claims, this renders all of the claims allowable.

Claims 8, 12, 27, 31, 46, 50, 65, 69, 84, 86 and 95

Taking claim 65 as exemplary, it requires the use of weights to select an exit port. The Office Action cites paragraphs 63 and 64 of Valdevit. Paragraph 63 recites the use of a hash, not weights. Paragraph 64 describes the hash in more detail, also never mentioning weights. Therefore the cited paragraphs do not stand for the proposition cited in the Office Action as they do not mention, teach or suggest weights, as they only reference hashes. Thus the rejection is improper and should be withdrawn.

Claims 11, 15, 30, 32, 49, 53, 68, 72, 85 and 87

Noting that exemplary claim 68 is dependent on claim 65 discussed above, it requires that the weights at least in part reflect consumed bandwidth. The Office Action again cites paragraph 64, this time specifying lines 11-29. As above, paragraph 64 only discusses hashes and does not mention weights in any manner, so it clearly does not mention that the weights at least in part reflect consumed bandwidth as required. Therefore this rejection is also improper and should be withdrawn.

Claims 17-20, 36-39, 55-58, 74-77 and 88-91

All of these claims include operations based on source and/or destination tags added to the at least one frame. Some claims require exit port selection based on the tags and other claims require stripping the tags. The Office Action cites paragraph 63 of Valdevit against all of the claims. Paragraph 63 mentions destination identifier D_ID and source identifier S_ID, but those are the source and destination addresses contained in the frames. They are not tags added to the frames and then stripped from the frames. Indeed, stripping the source and destination addresses would render the frames unroutable at the next switch. Thus the S_ID and D_ID clearly do not correspond to the required source and/or destination tags. Therefore the rejection is improper and should be withdrawn.

Double Patenting Rejections

Claims 1-95 were provisionally rejected for double patenting over Serial Nos. 10/699,567 and 10/699,568.

10/699,567

The Office Action purported to compare instant claim 1 with '567 claim 1 and concluded that the claimed limitation in the '567 case is a broader version of the instant case but any differences were obvious, without citing any support for the obviousness conclusion. A flaw in the comparison is that relevant elements were omitted from each

of the claims. Applicants provide a more proper table structure to properly compare the claims.¹

Instant case Claim 1	10/699,567 Claim 1
<p>1. A method of routing a flow of frames through a switch comprising:</p> <p style="padding-left: 40px;">receiving at least one frame from said flow of frames;</p> <p style="padding-left: 40px;">applying a process to select an exit port of said switch from a set of possible exit ports through which at least one frame from said flow of frames will exit so as to potentially reduce frame traffic congestion along potential routes that include said set of possible exit ports, said set of possible exit ports including at least some of the exit ports of at least two trunk groups; and</p> <p style="padding-left: 40px;">transmitting said at least one frame.</p>	<p>1. A method of routing a flow of frames comprising:</p> <p style="padding-left: 40px;">applying a correspondence between a plurality of logical ports and a plurality of physical ports of a switch, at least one logical port having corresponded a plurality of physical ports to form a trunked group, wherein said corresponded physical ports can be any of said plurality of physical ports exiting said switch, wherein said corresponded ports all operate at the same rate and wherein frames in a trunked group are delivered in order; and</p> <p style="padding-left: 40px;">balancing frame traffic through said switch using said plurality of logical ports, said frame traffic including frames exiting said switch via said physical ports, a selected physical port for at least one of said frames exiting said switch being selected based at least in part on said correspondence, with any frames exiting said switch via physical ports forming a trunked group being balanced over said physical ports forming the trunked group.</p>

¹ Applicants use '567 claim 1 as filed on December 26, 2007.

Applicants first refute the statement that ‘567 claim 1 is broader than instant claim 1. ‘567 claim 1 requires a correspondence between logical ports and physical ports in a switch, with one logical port having a plurality of physical ports to form a trunk group. Instant case claim 1 has no such limitations so that ‘567 claim 1 cannot be broader. ‘567 claim 1 also requires balancing traffic using logical ports, with further balancing between any physical ports in a trunk group. This limitation is also not present in instant case claim 1, thus further indicating that ‘567 claim 1 is not broader. Therefore the basic assumption of the Office Action is flawed, which alone is a sufficient reason to withdraw the rejection.

Looking at elements in instant case claim 1 that are not present in ‘567 claim 1, the instant case requires using possible exit ports which include exit ports from at least two trunk groups. ‘567 claim 1 only defines one trunk group, thus not having the required at least two trunk groups used for possible exit ports of instant case claim 1. Nothing has been cited to indicate that it would be obvious to modify ‘567 claim 1 to perform the required at least two trunk group operation. Mere unsupported allegations are insufficient on which to base a rejection, particularly with the fundamental flaw discussed above.

Applicants submit that the double patenting rejection is improper.

10/699,568

Here again the Office Action purported to compare instant claim 1 and ‘568 claim 1 and concluded that ‘568 claim 1 was broader than instant case claim 1 and that any differences were obvious, without citing any support. As above, a flaw in the comparison is that relevant elements were omitted from each of the claims. Applicants provide a more proper table structure to properly compare the claims.²

² Applicants use ‘468 claim 1 as filed on October 12, 2007.

Instant case Claim 1	10/699,568 Claim 1
<p>1. A method of routing a flow of frames through a switch comprising:</p> <p>receiving at least one frame from said flow of frames;</p> <p>applying a process to select an exit port of said switch from a set of possible exit ports through which at least one frame from said flow of frames will exit so as to potentially reduce frame traffic congestion along potential routes that include said set of possible exit ports, said set of possible exit ports including at least some of the exit ports of at least two trunk groups; and</p> <p>transmitting said at least one frame.</p>	<p>1. A method of routing a flow of frames for a core-edge switch configuration, the core-edge switch configuration configured to receive frames at an edge switch, route them to a core switch and then route them to an edge switch for transmission, the method comprising:</p> <p>receiving at least one frame of the flow of frames at an edge switch of the core-edge switch configuration;</p> <p>applying a process at one switch in the core-edge switch configuration to select a route through at least two switches forming the core-edge switch configuration for said at least one frame of the flow of frames to balance frame traffic through the core-edge switch configuration; and</p> <p>transmitting said at least one frame from an edge switch of the core-edge switch configuration.</p>

Applicants first refute the statement that ‘568 claim 1 is broader than instant claim 1. ‘568 claim 1 requires a core-edge switch configuration and then selecting a route through at least two switches in the core-edge switch configuration to balance frame traffic through the core-edge switch configuration. Instant case claim 1 has no such limitations. This clearly indicates that ‘567 claim 1 is not broader. Therefore the basic assumption of

the Office Action is again flawed, which alone is a sufficient reason to withdraw the rejection.

Looking at elements in instant case claim 1 that are not present in '568 claim 1, the instant case requires using possible exit ports which include exit ports from at least two trunk groups. '568 claim 1 makes no mention of trunk groups whatsoever. Nothing has been cited to indicate that it would be obvious to modify '568 claim 1 to have the required trunk groups and then also perform the required at least two trunk group operation. Mere unsupported allegations are insufficient on which to base a rejection, particularly with the fundamental flaw discussed above.

Applicants submit the double patenting rejection is improper.

Information Disclosure Statement

Applicants request consideration of the Information Disclosure Statement filed November 9, 2007, which crossed with the Final Office Action.

CONCLUSION

Based on the above remarks Applicants respectfully submit that all of the present claims are allowable. Reconsideration is respectfully requested.

Respectfully submitted,

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